Final Project

APES Solar Oven & Cook-Off

Project-Based Learning

- Environmental science projects give me the opportunity to reach my students in two fundamental ways:
  - Scientific component
  - Social Justice component

Project-Based Learning

- Solar Oven:
  - Alternative Energy Sources
  - Environmental impacts of energy consumption and production
  - Geopolitical implications

Project-Based Learning

- Solar Oven:
  - Needs of specific communities and populations
  - Sense of empowerment

Solar Oven Cook-Off Timeline

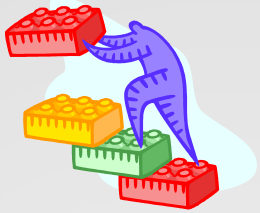
1. Project Overview
2. Vocabulary and Web Quest
3. Materials List and Sun-Mapping
4. Oven Design
5. Oven Build
6. Oven Test/Data Collection
7. Redesign and Adjustments
8. Recipe Design
9. Final Report
10. Cook-Off

Stages

1. Research (2-3)

2. Design (1)

3. Build (3-5)



4. Cook (1)

1. What type of solar cooker (panel, parabolic, or box) will your group construct?
2. What are two reasons for your choice?
3. Explain one problem solved from using solar cookers in Africa.

Initial Plan of Attack

Project Overview

- **In teams of two or three you will research, design and participate in a solar oven cook-off.**
- **Required Outcomes: Report and Blueprints, Oven, Recipe or Data Collection**
- **Do Not Spend over $10 for supplies.**

COOK-OFF CATEGORIES

1. Best Dish
2. Most Environmentally Friendly Dish
3. Hottest Oven

Report Requirements

1. Construction Materials and reasoning behind choice
2. Design or “Blueprint” of Oven
3. Environmental Requirements for Operation (Location at Camino and explanation)
4. A discussion of the problems encountered during construction and operation, how the problems were resolved and changes you would make for future construction.
5. Any observations, measurements, calculations, results and conclusions of experiments done during testing
6. Recipe